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REMARKS

Reconsideration of the application is respectfully requested. Claim 1 has been amended.

Section 102 Rejections

Independent claims 1 and claims 3-6 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,565,649 to Tougeron (hereinafter "Tougeron"). This determination is respectfully traversed.

In contrast to the present invention, Tougeron discloses a projectile intended to carry a payload, and create a particular effect upon impact by the release of an irritating fluid in the vicinity of the point of impact, through the deformation or separation of the projectile upon impact. In the Examiners Response to Arguments, the Examiner agrees that Tougeron is not hollow-based. However, the Examiner contends that Tougeron is forward weighted. Applicant respectfully traverses. Tougeron calls for a liquid payload of undisclosed volume and specific gravity. Applicant argues that the weight of the propelling motor in the rearward portion could be greater than or equal to the weight of the liquid filled forward end, thereby negating the ability for Tougeron to show a weight forward condition. Furthermore, nowhere in Tougeron is there any disclosure of a weight-forward condition. In addition,

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Tougeron discloses a forward nose housing a cavity designed to contain a liquid agent and thus is not solid. Applicant submits that Tougeron's disclosure of a 'solid nose' is specifically with reference to the thin membrane that covers the liquid payload. Referring to Tougeron column 2, lines 56-57, Tougeron states "The skirt 3 defines a cavity 6 between the nose 2 and the base 4." Clearly, the nose cannot be solid as Tougeron specifically states that cavity 6 is between the nose and the base.

Furthermore, the nose of Tougeron fails to disclose an ogive as in the present invention. Every conventional projectile has some degree of ogive at the forward end. The shape and degree of ogive are tailored to serve a specific purpose. Some are solely to aid in long range accuracy, others for enhanced penetration and yet others are for enhanced expansion on entry.

The 'domed top' surrounded by a rim on the present invention is specifically designed with minimum curvature to minimize penetration and still allow the shotshell to open properly. The ogive shape is slightly convex which is purpose specific to quickly transfer kinetic energy to the surface of the target without deformation or penetration. In contrast to the present invention, Tougeron calls for a substantial ogive. The ogive disclosed in Tougeron is for a more severe and lacks the rebated edge or rim between the outer

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cylindrical wall and start of the ogive as claimed in the present invention. The shape of the ogive in Tougeron focuses impact energy on the nose in order to rupture the payload capsule and open the pre-cuts on the nose in order to disperse the liquid payload. Those familiar with the art recognize that a kinetic impact projectile is an entirely different class of projectile than those which rely on a chemical payload and that therefore Tougeron does not disclose an ogive as in the present invention.

In contrast, the present invention as recited in claims 1-6 is directed to an extended range munition having a projectile which includes a generally cylindrical body. The cylindrical body has a protruding member extending therefrom thereby increasing the weight of the body at the forward end. Moreover, amended independent claim 1 includes the limitation of a solid forward end.

In comparing the Tougeron disclosure with the claims of the present invention, it is clear that Tougeron fails to disclose a projectile having a solid forward end with increased weight. Nowhere in Tougeron is the relative weight of the forward and rearward end compared. In fact, Tougeron discloses a cavity 6 between the nose and the base. Clearly the presence of the cavity would not bias the weight of the projectile to the forward end. In addition the present invention discloses a hollow base for the improvement of flight

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characteristics. Tougeron specifically discloses a hollow base for the inclusion of a motor or propellant device, describing how the propelling motor always remains connected to the projectile and can be fired from a launcher of simple design. In addition, Tougeron discloses that the payload is dispersed by the deformation or separation of the projectile body, while the present invention relies strictly on the kinetic impact as the means to achieve the desired result.

In addition, Tougeron fails to show a projectile having a solid forward end. The forward end of the Tougeron projectile is hollow and accommodates a liquid filling therein. The present invention as claimed in amended independent Claim 1, and claim 7 includes the limitation of a solid forward end for the projectile. This is in contrast to Tougeron, which clearly requires a hollow forward end projectile.

Accordingly, claims 1-6 include specifically recited elements which are not found in the disclosure in Tougeron. As such, as a matter of law, Tougeron cannot anticipate claims 1-6 of the present invention.

It is, therefore, respectfully submitted that claims 1-6, as well as the claims which depend therefrom, define patentably over Tougeron.

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Claims 1-8 and 10-12 also stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,067,909 to Knoster, Jr. (hereinafter "Knoster"). This determination is respectfully traversed.

In contrast to the present invention, Knoster fails to disclose a less than lethal projectile. The device in Knoster is purely used for lethal purposes. Knoster teaches and discloses a sabot pressure wad adapted to receive a payload. Column 2, lines 63 -67.

Shotgun slugs fall into two general categories, foster and sabot. All shotgun slugs contained in a shotshell (casing) employ a gas sealing device over the powder, wadding to cushion the slug and regulate case volume and finally the slug (payload). The gas seals and wadding are used to regulate the internal ballistics of the fired shell. Knoster's disclosure is directed to unitizing several individual components into a single unit. It should be noted that Knoster discloses a unitary pressure seal and wad, in contrast to the present invention where, as shown in Fig. 1, the gas seal 14, and base 12 are separate components. While the gas seal and wads are ejected from the bore, those components are not projectiles and therefore do not disclose a projectile as in the present invention. In the Examiner's Response to Arguments, the Examiner states that "a projectile is defined as a fired, thrown, or otherwise propelled object, such as a bullet or shotshells." The applicant respectfully disagrees with this definition. The shotshell is a casing that contains the various propellant, wads and projectiles

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until fired. The shotshell is never discharged. In Knoster, the shotshell is never discharged, nor does it provide a defined terminal effect on a target.

Furthermore, because the sabot pressure wad as disclosed in Knoster is actually hollow in its forward section where the payload would be inserted, Knoster discloses a circumferential wall defining a compartment. That compartment is by nature hollow, and thus neither forward weighted, solid or dome shaped. Therefore, in contrast to the present invention, the gas seal and pressure wad sections of the device would cause it to be rear weighted. Knoster discloses a gas seal, which is more accurately described as concave in shape rather than hollow based in order to serve the function of properly seal in gases generated by the ignited gunpowder. The concave rearward end of Knoster serves as a piston which aids is efficiently driving the pressure wad and sabot portion forward. The sabot portion of Knoster would then keep a payload centered in the bore and improve the internal ballistics and flight. The hollow rearward end of the device according to the present invention provides bearing surface length without substantial weight. The device is purely a projectile and must rely on a purchased system of various wads and a gas seal, separate and unattached to the applicant's projectile.

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Accordingly, claims 1-8 and 10-12 include specifically recited elements which are not found in the disclosure in Knostr. As such, as a matter of law, Knostr cannot anticipate claims 1-8 and 10-12 of the present invention.

It is, therefore, respectfully submitted that claims 1-8 and 10-12, as well as the claims which depend therefrom, define patentably over Knostr.

Section 103 Rejections

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tougeron in view of U.S. Patent No. 6,615,739 to Gibson. This determination is respectfully traversed.

As noted above, Tougeron is deficient in that it fails to disclose a projectile having a solid forward end with increased weight. Moreover, Tougeron fails to show a protruding solid head, as claimed in amended independent claim 1 and independent claim 7. The Gibson reference fails to fill these deficiencies.

Gibson, teaches that the purpose of the dimples are to initiate case rupture or enhance accuracy. Gas operated guns (paintball) operate at extremely low velocities, usually less than

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300 fps. This type of projector (gun) has an extreme range of less than 30 yards. While Gibson claims that the dimples will permit improved rupture of paintballs and possibly enhance their accuracy. However, in accordance with the present invention, the use of dimples has a different purpose.

In the present invention, dimples are used to significantly reduce the surface area that comes in contact with the interior of the shotgun barrel. The applicants recognize that dimpling actually increases total surface area, but reduces actual surface available to friction. Reduced surface contact area on the slug reduces friction which in turn requires less propellant pressure to properly fly the slug at lower velocities. Having the ability to reduce velocity enhances the low lethality of the projectile. The reduction in total projectile weight caused by removing material when making the dimples also enhances the low lethality of the projectile at any given velocity.

Therefore, there would be no motivation to look to Gibson to add dimples to the present invention, as Gibson discloses dimples for a completely different purpose as in the present invention. Thus Gibson fails as a reference as there would be no motivation to combine Gibson with Tougeron to arrive at the present invention.

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In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* Thus, the express teachings of Gibson, which would lead one away from the invention defined by claim 9, may not be ignored during examination.

To arrive at the present invention as defined by claim 9, the Action not only ignored the express teaching of Gibson, but also engaged in hindsight reconstruction because none of the documents of record teach or suggest the process as claimed, as the cited references, i.e., Tougeron and Gibson, all require features not found in the present invention. It is well established that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness and any attempt at hindsight reconstruction using Applicants' disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993).

Thus, Tougeron and Gibson, individually or in combination, fail to teach the present invention as set forth in claim 9.



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Having responded in full to the present Office Action, it is respectfully submitted that the application, including claims 1-12, is in condition for allowance. Favorable action thereon is respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

Respectfully submitted,

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